LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES

OFFICE OF FISHERIES
INLAND FISHERIES SECTION

PART VI -A

WATERBODY MANAGEMENT PLAN SERIES

TURKEY CREEK LAKE

LAKE HISTORY & MANAGEMENT ISSUES

CHRONOLOGY

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TURKEY CREEK LAKE HISTORY

GENERAL INFORMATION

Date reservoir formed
Dam and spillway were completed in 1953, impounding the confluence of three significant tributaries. Both were raised in 1963 to the current levels.

Impoundment
Owner – State of Louisiana

Purposes for Creation – recreation (originally established as a State Fish and Game Preserve)

Size
A total of 3,080 surface acres as shown below in Figure 1.

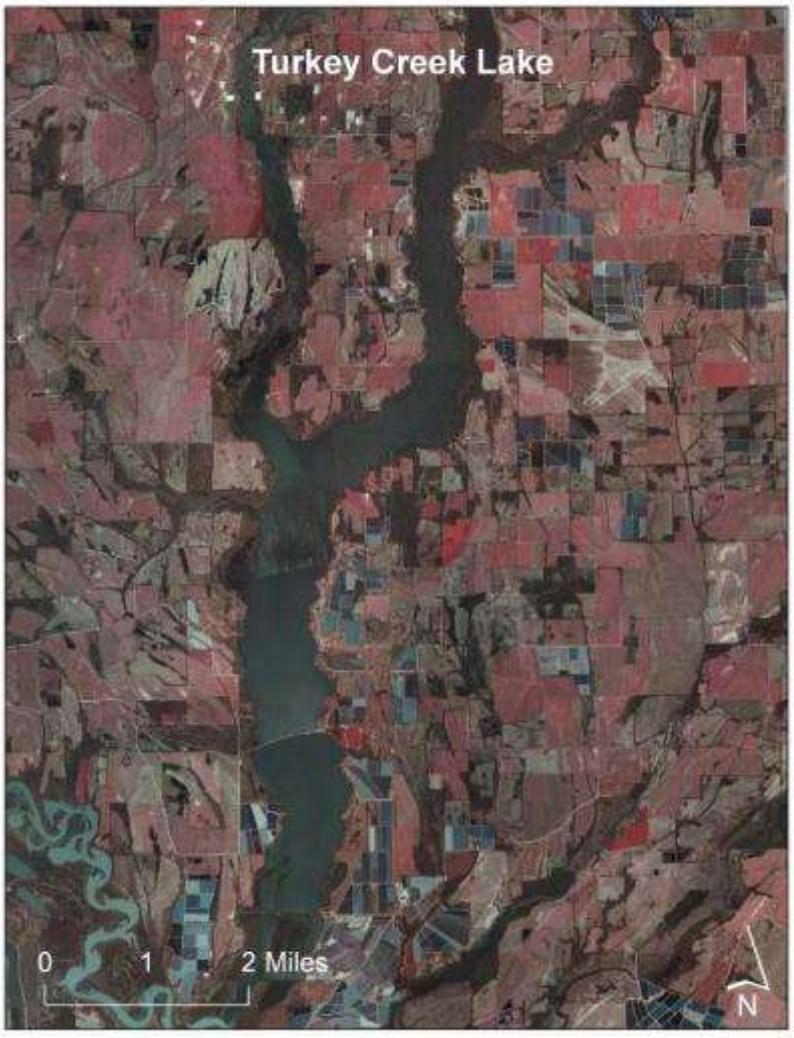

Figure 1. Aerial photo of Turkey Creek Lake, Louisiana.

Watershed
163 square miles

Pool stage
44.0 ft. Mean Sea Level (MSL), maintained by crest of spillway

Parish/s located
Franklin

Border waters
Turkey Creek and West Turkey Creek are the major tributaries flowing directly into the reservoir from the north. Prickett Bayou provides a less significant inflow, entering from the west. The Boeuf River overflows into the reservoir during periods of high water.

Spillway (Figure 2)
Low crest width = 250 ft.; elevation = 44.0 ft. NGVD

Figure 2. Photo of the Turkey Creek Lake spillway looking west along the dam.

Drawdown description
A photo of the drawdown structure is shown in Figure 3 and the location of spillway and drawdown structure is shown in Figure 4.
Structure – 48 in. gated culvert with manual opening by vertical lift stem and wheel
Number of culverts – 1
Condition – constructed in 1963, functional but severely rusted
Drawdown Capability – approx. 9 ft. total, rate unknown

Figure 3. Water control structure located at the dam on the southern end of Turkey Creek Lake, LA.

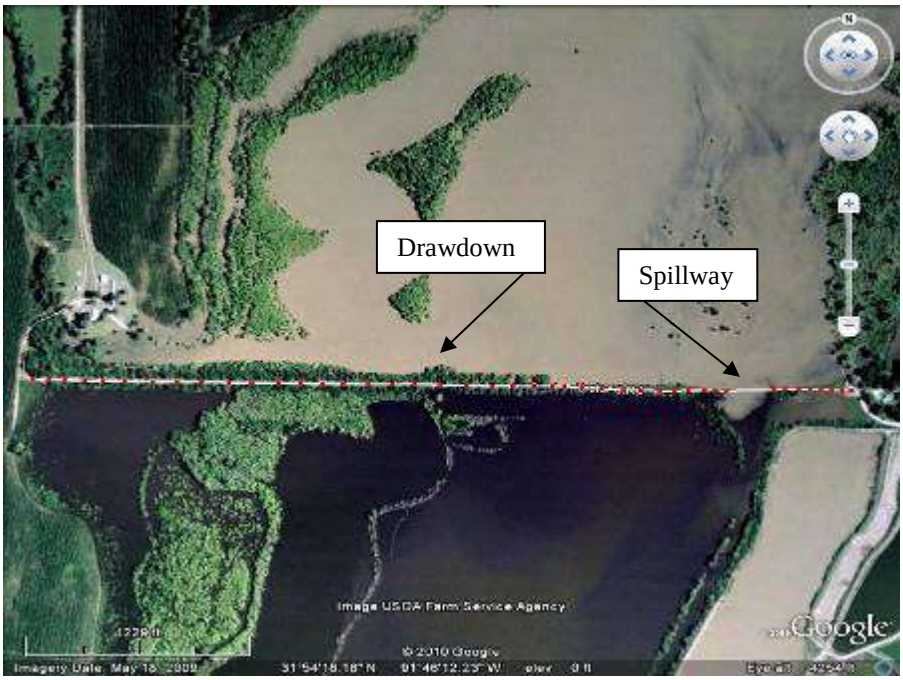

Figure 4. Location of the drawdown structure and spillway on Turkey Creek Lake, LA.

Who controls

The Louisiana Department of Transportation and Development (LDOTD) has authority for maintenance and operation of the drawdown structure. For lake management purposes, the appropriate procedure is for LDWF to request that LDOTD operate the structure.

LAKE AUTHORITY

Association

There is no lake association for Turkey Creek Lake. The Franklin Parish Police Jury (FPPJ) or any parish or parishes, by formal resolution of the governing authority, pursuant to R.S. 56:721 et seq. may appoint a game and fish commission which may exercise those powers, duties, and functions provided in R.S. 56:721 et seq. in relation to the game and fish preserves.

Authorization

The Turkey Creek Game and Fish Preserve was originally established in Act No. 159 of the 1938 Regular Session of the Louisiana Legislature. The Preserve was redefined by Act No. 94 of 1963 Regular Session. Act 858 of 1981 Regular Session abolished the Turkey Creek Game and Fish Preserve and transferred powers, duties, functions, and responsibilities to the Secretary of the Department of Wildlife and Fisheries.

The LDWF has sole authority over management of fish and game and responsibility for control of aquatic vegetation. The LDOTD is responsible for maintenance and safety of the dam and spillway.

ACCESS

Boat Ramps

Public – A public boat ramp is located at the park on the south end of the lake. The site is maintained by the FPPJ. There is a nominal fee for entering the park. The ramp is concrete with a paved parking lot and ample parking space. The GPS coordinates for the Parish Park are: 31.91833^{o}N, -91.75861^{o}W

Private – Several private ramps are located on Turkey Creek Lake and offer boat launching for a minimal fee. The following is a list of these ramps with respective GPS coordinates. The ramps are listed in order from south to north and are located on the eastern shore of the lake, with the exception of Redneck Landing, which is located on the main point in the north-central area of the lake:

Mabry's Landing	31.92889^{o}N, -91.76167^{o}W
King's Landing	31.93111^{o}N, -91.76361^{o}W
Robert's Landing	31.94194^{o}N, -91.76333^{o}W
Tom King Landing	31.95611^{o}N, -91.76111^{o}W
Redneck Landing	31.97528^{o}N, -91.75222^{o}W

Piers

A fishing pier is located at the parish park on the south end of the lake.

State/Federal/Municipal Facilities

Parish Park - FPPJ operates a campground and park with a fishing pier and boat launch near the southeast corner of the lake, south of Hwy. 562.

SHORELINE DEVELOPMENT

Residential
There are no major residential developments on Turkey Creek Lake; however, there are several single family homes located around the shoreline.

Business/Industry
None

Agricultural
Turkey Creek Lake lies within an agricultural area. Cotton, corn, wheat, and soybeans are typically grown in close proximity to the lake. Cattle ranching operations are also prevalent in the area.

PHYSICAL DESCRIPTION OF LAKE

Shoreline length
Approximately 33 miles

Timber type
Bald cypress (*Taxodium distichum*) is very abundant in Turkey Creek Lake, especially in the upper reaches where they form dense cypress brakes. Native bottomland hardwood species are common around the shoreline.

Average depth
8.0 ft.

Maximum depth
22.0 ft., near Hwy. 562 Bridge

Natural seasonal water fluctuation
2 ft. – 4 ft.

EVENTS/PROBLEMS

Backflow from Boeuf River
Frequent backflow occurs from the Boeuf River northward across the spillway into the lake. Historically, this has occurred every 2 – 4 years when the Ouachita River is near flood stage at Columbia and the Boeuf River is at least 44.0 ft. MSL at Fort Necessity. During these times, Turkey Creek Lake acts as a temporary flood storage reservoir. An increase in turbidity accompanies the flood waters.

Invasive Species
In recent years, Asian carp (*Hypophthalmichthys* spp.) have entered Turkey Creek Lake during flood events. These non-native fish have been observed leaping behind boat wakes

throughout the lake. Backflow flooding also has a significant influence on vegetation status in the lake for a given year. The extent of the impact is dependent on the duration of the flood event. An extended high water period can greatly reduce the coverage of submersed species for an entire year. A rapid drop in water level following a high water period will also remove floating vegetation such as duckweed (*Lemna* spp.), water hyacinth (*Eichhornia crassipes*), and giant salvinia (*Salvinia molesta*) by creating a current which "flushes" the vegetation.

West Franklin Watershed Project/Pesticide Contamination

In the mid-1970's, the West Franklin Watershed Project, sponsored by the Soil Conservation Service, was initiated in part to control the influx of pesticides into Turkey Creek Lake. There were many drainage projects throughout the state and nation during this period to address agricultural drainage issues and pollution caused by pesticide runoff and sedimentation. A 1978 sample of various fish species from Turkey Creek Lake revealed the presence of the following pesticides: toxaphene, DDE, DDT, and DDD. An extensive fish kill in 1978 was believed to have been caused by pesticide contamination. LDWF recommended at the time that at least some drainage in the watershed be diverted from the lake into Boeuf River. The project was completed in the mid-1980's. Sediment and pesticides contributions into Turkey Creek Lake have been reduced as a result.

Request to Ban Commercial Netting

In 1971, the Franklin Parish Police Jury requested that LDWF ban commercial netting on Turkey Creek Lake out of concern that gamefish populations may being harmed by commercial fishing gear. FPPJ had previously requested (1969) that certain areas of the lake be closed to commercial fishing. The requests were repeated until the early 1980's. LDWF did not restrict commercial fishing. In 1984, LDWF conducted a netting study to determine the extent of gamefish entrapment in commonly used commercial nets. Monofilament gill nets of 3.0", 3.5", and 4.0" inch bar mesh sizes were fished for eight days each in February and March in different habitats within the lake. Gamefish were only captured in the 3.0" size nets. Those gamefish represented 5.7% of the total weight captured in all of the nets. Due to regular introductions of rough fish species during flood events, LDWF expressed the position that commercial fishing was necessary to maintain balance between rough fish and gamefish populations.

Condition of Dam and Spillway

A large portion of the upstream dam embankment has significantly eroded. The crown has narrowed from 20 feet to 6 feet in some locations. The crest elevation is also lower than the recommended height at certain locations. It has been recommended to add appropriate soil to these areas and to provide shoreline protection on the upstream slope. Water has been documented to be leaking from the upper spillway weir (on the east side) for at least a few years. SOURCE: Turkey Creek Dam Inspection Report 2015, prepared by ECM Consultants, Inc. for LDOTD.

MANAGEMENT ISSUES

AQUATIC VEGETATION

Management of aquatic vegetation on Turkey Creek Lake has been of major importance since impoundment of this natural backwater lake. Duckweed was originally the most problematic species, with infestations being compounded by dense stands of cypress and buttonbush (*Cephalanthus occidentalis*) in the upper reaches of the lake. LDWF made recommendations in the early 1970's to clear dense thickets of trees to prevent accumulation of duckweed and other floating vegetation. Whether this occurred is not clear. Water hyacinth has also formed dense mats in the forested portions of the lake. Giant salvinia *(Salvinia molesta)* was discovered on the lake in 2007 and has since become the most problematic species. Nearly all vegetation control efforts are currently targeted towards this species. An LDWF herbicide spray crew had been dedicated to Turkey Creek Lake, though now routine treatments are performed by a roving spray crew based out of the District 2 Office in Monroe, LA. Submerged vegetation is common in Turkey Creek Lake, but not problematic. Control is provided by periodic fluctuations from major rain events and backwater flooding. Coontail (*Ceratophyllum demersum*) and hydrilla (*Hydrilla verticillata*) are the most common species of submerged vegetation.

Vegetation Type Map

A type map of the aquatic vegetation was conducted in 2014. A copy may be found in Turkey Creek Lake MP-B.

Vegetation Biomass

No biomass surveys of aquatic vegetation have been conducted on Turkey Creek Lake.

Treatment History

Biological

Multiple stockings of giant salvinia weevils (*Cyrtobagous salviniae*) have been made on Turkey Creek since 2012 for the control of giant salvinia. The intent of the continued introductions is to eventually establish a self-sustaining population which will depredate on the target plants and reduce or minimize the total coverage of giant salvinia on the lake. Approximately 16,000 giant salvinia weevils were stocked into heavily infested areas of salvinia in June and October, 2012. A total of 52,100 weevils were also stocked in 2013. A sample taken at the release site in March 2013 revealed a weevil density of 400 adults, larvae, and pupae per square meter. This represented the highest density of stocked giant salvinia weevils in any waterbody throughout Louisiana. No weevils were found in a sample collected in February of 2014, following a period of below normal winter temperatures. Subsequent stockings and samples occurred at five different sites in 2014 and 2015, with mostly promising results. These introductions and sampling have been in cooperation with the U. S. Army Research and Development Center located in Lewisville, TX at the Aquatic Ecosystem Research Facility. An overview and results of this project can be found in: Biological Control of Giant Salvinia in Louisiana: CRADA 12-EL-09 by J. Nachtrieb. The stockings are planned to continue until deemed either unnecessary or ineffective.

Physical

Drawdowns have been conducted on Turkey Creek Lake for the purpose of vegetation control. Drawdowns for the primary purpose of vegetation control had been recommended and approved (though not be confirmed) for the following years: 1970, 1971, 1978, and 2010 (confirmed). Drawdowns have typically been recommended for late summer and fall.

The drawdown of 2010 was initiated in May and was originally planned for 5 ft, though the lake was de-watered to a level of 9 ft. below pool stage by early summer. The primary purpose was for control of giant salvinia and other nuisance aquatic plant species, with stated secondary purposes being stump removal, boat lane construction, maintenance of control structure, and repairs to the spillway. The drawdown continued through the fall of 2010, though did not achieve the desired results of effective low cost and long-term removal of nuisance vegetation. Much of the upper reaches were not completely de-watered and emergent moist soil vegetation prevented the desiccation of salvinia plants stranded on high ground. Giant salvinia coverage returned to nuisance levels in the summer of 2011. A fish kill associated with this drawdown was also documented. Drawdowns should remain a tool to reduce excessive vegetation on the middle and southern portions of the lake, including hydrilla infestations, though long term control and significant vegetation removal from the upper reaches is not likely.

Two containment booms were placed across the west and east forks of the lake during the drawdown of 2010. The booms have served to contain giant salvinia in the upper reaches of the lake. Giant salvinia and other floating species accumulate on the north side of the boom where they can be efficiently treated with herbicides. During October 2013, a third boom was placed across the east fork approximately one-half mile north of the original boom. The intent is to rid this area of floating vegetation, and then move the lower boom above the northern boom in an effort to gradually concentrate the giant salvinia into the extreme upper reaches that are not accessible by spray boat. The boom, which is designed for oil spill containment, can be easily crossed by boats and has been effective thus far.

Chemical

Routine spraying of contact herbicides for control of floating and emergent species has been conducted by LDWF since the 1960's. Species most commonly treated include alligator weed, duckweed, water hyacinth and now giant salvinia. Diquat dibromide at 1 gal/acre has been used primarily for duckweed control, while water hyacinth and alligator weed have been controlled with glyphosate (0.75 gal/acre) and 2,4-D (0.5 gal/acre). Spraying by boat with conventional outboards was not effective for reaching vegetation in the dense thickets of trees and buttonbush. Spray crews are now equipped with surface drive motors which allow improved access to shallow areas.

In July 2008, both upper arms of the lake were treated with Galleon SC (penoxsulam) broad spectrum systemic herbicide for the control of giant salvinia. A total of 1,000 acres were treated with a concentration of 10 - 15 ppb, for total contact duration of 70 days. Despite Hurricane Gustav, which deposited nearly 20 inches of rain in the area two months after treatment, results were considered to be successful. Spray crews were able to access some of the more problematic areas following the reduction in coverage. Despite the success of this treatment, giant salvinia returned to problematic levels the following summer, likely

originating from inaccessible backwater areas. In August of 2009, eight LDWF spray crews conducted spray activities simultaneously on the lake for a period of five days in an effort to minimize the coverage. Only a temporary reduction was achieved. In 2010, total spraying effort was reduced due to the extensive drawdown (see above - Physical).

In August 2011, giant salvinia in the northern end of Big Brake was treated with Sonar AS (fluridone). Salvinia growth consisted of 50% coverage of primary stage plants with some areas containing significant secondary stage mats. The area also contained some water hyacinth mats (approximately 0.25 acres each) and approximately 90% duckweed coverage. The total area treated was 185 acres with an average depth of 2.5 feet. Target concentration for the application was 40 ppb. Liquid Sonar AS was hand dispersed throughout the treatment area with the aid of ProDrive® equipped boats. The initial application was 12.5 gallons. Herbicide was poured in front of the boat path in an attempt to push herbicide through vegetation. Water level was at pool stage at the time of application and there was no flow through the area.

A 'bump' treatment was conducted 28 days later using 3.5 gallons of Sonar AS and the same methods. Before the second application was made, salvinia inside the treatment area was already greatly reduced. The second application severely damaged the remaining salvinia. Duckweed coverage had already been reduced by 75% with the remainder appearing bleached and dying. Coverage of giant salvinia and duckweed was reduced to less than 50 acres. Water conditions were approximately 12 inches below that of the initial application. This condition concentrated the chemical and likely enhanced the kill. The low water did inhibit boat movement through the area and the northeast corner of the treatment area could not be accessed. To get chemical into this area, an ATV was used to access the eastern shore. Herbicide was applied by wading out into the brake.

In fall/winter 2011-2012, nuisance plant species common to Turkey Creek Lake were not at problematic levels. A very mild winter did not reduce coverage or suppress growth and led to rapid expansion during early spring 2012. A spray crew was dedicated to Turkey Creek Lake to control expansion of giant salvinia. However, growth became too great and coverage reached approximately 500 acres by summer 2012. Other District 2 spray crews were sent to Turkey Creek Lake to assist with control. In August 2012, crews from District 3 were sent for three days to assist. Hurricane Isaac moved through the area and flushed salvinia from the upper reaches of the lake and across the booms. By September, salvinia coverage had not been significantly reduced and a request to use contract sprayers was made. Contractors did not become available until November 5. The contracted work was complete on November 14. A total of 409 acres of giant salvinia were treated with a mixture of glyphosate (0.75 gal/acre) and diquat dibromide (0.25 gal/acre) with Aqua King Plus (0.25 gal/acre) and Thoroughbred (8 oz. /acre) surfactants.

In early 2013, giant salvinia persisted in the upper arms, with total coverage estimated to be 250 acres. The coverage expanded to nearly 300 acres during the summer and additional spray crews were necessary. The following LDWF salvinia treatment recommendation has been followed since 2012:

April 1 – October 31	glyphosate (0.75 gal/acre)/diquat (0.25 gal/acre)/Aqua King

	Plus (0.25 gal/acre)/Thoroughbred (12 oz/acre)
November 1 – March 31	diquat (0.75 gal/acre)/surfactant (0.25 gal/acre)

Water hyacinth and duckweed were also abundant, but found in the same general areas as the giant salvinia and treated at the same time. Table 1 shows the number of acres of common aquatic plants treated with herbicide annually since 2005.

Table 1. Acres treated with herbicide for various aquatic plant species from 2005 – 2015 on Turkey Creek Lake.

	Aquatic Plant Species				
Year	Giant Salvinia	Water Hyacinth	Alligator weed	Pennywort	Duckweed
2005	-	1,436	-	205	-
2006	-	1,422	-	88	6
2007	428	2,765	7	17	-
2008	1,306	1,893	3	43	90
2009	5,322	1,092	-	25	319
2010	830	678	-	-	5
2011	656	1,902	8	45	220
2012	3,581	1,479	80	103	13
2013	2,860	105	42	236	90
2014	1,327	186	9	29	6
2015	650	105	-	20	-

2014 Summary: Until mid-summer, much of the giant salvinia coverage was limited to the upper reaches of Big Brake, north of the booms. By mid-July, coverage had become extensive within and north of the booms, while duckweed and water hyacinth had formed an extensive mat north of the boom in Little Brake. Scattered GS was becoming abundant in the main lake area north of the Hwy. 562 Bridge. Two contract spraying operations were conducted in August and another began near the end of September to reduce the coverage of GS and the duckweed/ water hyacinth mat in Little Brake. A large mat of GS was found in the upper reaches of Little Brake in September and treated by contractors. No significant mats of GS formed below the booms in 2014, though it became abundant. Contractors treated a total of 706 acres of GS on three separate occasions. LDWF spray crews concentrated control efforts at and below the booms. The combined herbicide treatments were effective in significantly reducing the overall coverage on the lake. The acreage of vegetation treated was lower than in the past two years primarily due to the loss of a spray crew that had been dedicated to Turkey Creek. Coverage of hydrilla, a submerged aquatic vegetation (SAV) became extensive on the south end of the lake, covering 30% of the surface below the bridge. It was also found scattered along the western shoreline north of the bridge up to Little Brake, but was not problematic. Only areas immediately in front of the two boat launches in the affected area were treated with herbicide (diquat dibromide at rate of 1 gal. per acre). A total of 5 acres were treated in 2014.

2015 Summary: Vegetation was treated by the LDWF District 2 spray crew in 2015. Giant

salvinia remained concentrated mostly above the booms. Some surface mats formed below the booms during summer, mostly on the eastern shoreline north of the Hwy 562 Bridge. Coverage of other species never reached problematic levels. The hydrilla on the south end of the lake did not reach levels seen in 2014, likely due to high turbid conditions throughout the spring of 2015. No treatment for hydrilla was necessary.

HISTORY OF REGULATIONS

Recreational
State recreational fishing regulations apply.
Recreational fishing regulations may be viewed at the web address below:
http://www.wlf.louisiana.gov/fishing/regulations

Commercial
Statewide commercial fishing regulations apply.
Commercial fishing regulations may be viewed at the web address below:
http://www.wlf.louisiana.gov/fishing/regulations

DRAWDOWN HISTORY

Turkey Creek Lake drawdowns have been conducted for various purposes but are not well documented. Details are provided in Table 2.

Table 2. Drawdown history on Turkey Creek Lake, Louisiana.

Year	Purpose	Drawdown Level (ft.)	Confirmed	Success
1961	Vegetation control, removal of trees/stumps	?	---	--
1970	Vegetation control/shoreline maintenance	3	No	--
1971	Vegetation control	5 max.	No	--
1978	Vegetation control, commercial harvest of rough fish	?	No	--
1984	Boat lane construction	4	Yes	--
1988	Dam inspection	5	Yes	--
2010	Vegetation control, boat lane construction, boat ramp and control structure repair	9	Yes	limited veg. control, other projects completed

FISH KILLS/ DISEASE HISTORY/ LMBV

Frequent fish kills in 1950's – 1960's were attributed to low dissolved oxygen (DO) levels

caused by decaying organic matter. Dissolved oxygen levels have also become very low under large mats of surface vegetation in the upper reaches of the lake during late summer. Upon heavy rainfall, the anoxic water is dispersed throughout the lake, resulting in localized fish kills. There is no documentation of significant kills resulting from disease. Though not confirmed, some fish kills during the 1970's were suspected to be caused by pesticide contamination. One such kill occurred in August 1978. Large numbers of buffalo (*Ictiobus* spp.) and common carp (*Cyprinus carpio*) were observed in the western arm of the lake. There was also a significant fish kill in summer 2010 associated with the lake drawdown.

CONTAMINANTS/ POLLUTION

No fish consumption advisory has been issued for Turkey Creek Lake. Advisories have been listed for the nearby Ouachita River.

Elevated levels of several pesticides were found in fish samples taken during the 1970's. The pesticides included toxaphene, DDT, DDE, and DDD. Fish kills and low fish abundance in the 1970's were attributed to this, but not confirmed. The completion of the West Franklin Watershed Project and the banning of certain harmful pesticides have reduced the amount of pesticides in Turkey Creek Lake. In 1981, the Soil Conservation Service made the claim that the reduced pesticide influx would have immediate benefits to the fisheries (Soil Conservation Service, 1981, SCS Environmental Assessment, West Franklin Watershed).

BIOLOGICAL

Fish samples

History – Standardized sampling (as per current LDWF guidelines) was initiated in 1990. Fish biomass sampling using the fish toxicant (rotenone) was conducted from 1971 – 1993. Table 3 below is a summary of prior and scheduled sampling.

Table 3. Summary of historical and future scheduled fish population sampling efforts on Turkey Creek Lake, LA.

TURKEY CREEK LAKE SAMPLING	
Note: All sampling conducted as per LDWF Standardized Sampling Guidelines.	
1971 - 1993	Rotenone Sampling Only; conducted in the following years: 1970,71,72,73,74,75,77,78,79,80,81,82,83,84,85, and 1993. *Note: a rotenone sample consists of a 1 acre area blocked off with a net and the fish toxicant rotenone applied throughout and fish collected for an hour after initial application and again the following morning.*
1993, 1995, 1998 2003,2007,2008, 2011*,2012 *data was lost	Shoreline Seining: 4-6 samples taken during summer, normally at a boat ramp. *Note: a seine sample is defined as a minimum of a 1 quadrant of a circle haul at each location.*

2011* *data was lost	Electrofishing: (6)15 minute samples spring and (6) 15 minute samples in fall. Shoreline Seining: 6 samples during summer *Note: electrofishing samples are defined as 900 seconds of time that electricity is actually being applied into the water. In addition, other parameters such as sampling equipment, time of day, time of year and sample site are all consistent.*
2012	Shoreline Seining: 4 samples during summer
2013	Electrofishing: (6)15 minute samples spring and (6) 15 minute samples in fall
2014	Shoreline Seining: 3 samples during summer Electrofishing: (3) 15 minute samples during summer (night) Aquatic Type Map Survey Lead Nets: (6) samples during fall (EXPERIMENTAL) *Note: A lead net (fyke net) sample consists of 2 separate 1.0" square mesh nets fished simultaneously in the same area for approximately 48 hrs. These nets are especially effective on crappie, sunfish, and catfish.*
2015	No fisheries sampling scheduled
2016	Largemouth Bass and Crappie Population Assessment Study: spring electrofishing (goal=500 bass), fall lead nets (goal=500 crappie) Age and growth analysis on bass and crappie Genetics analysis on bass Aquatic Type Map Survey
2017	Largemouth Bass and Crappie Population Assessment Study: spring electrofishing (goal=500 bass), fall lead nets (goal=500 crappie) Age and growth analysis on bass and crappie Genetic analysis on bass Recreational creel survey
2018	Largemouth Bass and Crappie Population Assessment Study: spring electrofishing (goal=500 bass), fall lead nets (goal=500 crappie) Age and growth analysis on bass and crappie Genetic analysis on bass

Stocking history

Table 4 is a list of the fish stockings in Turkey Creek Lake, Louisiana from 1993 through the present.

Table 4. Summary of fish stockings in Turkey Creek Lake, LA from 1993 to date.

Year	Species	Size	Number
1993	Florida largemouth bass	Fingerling	66,456
1995	Channel catfish	Fingerling	32,270
1995	Florida largemouth bass	Fingerling	10,000
1998	Florida largemouth bass	Fingerling	33,000
1999	Blue catfish	Fingerling	15,300

1999	Channel catfish	Fingerling	5,625
2006	Florida largemouth bass	Phase II	1,375
2007	Florida largemouth bass	Fingerling	33,784
2008	Florida largemouth bass	Fingerling	32,760
2009	Florida largemouth bass	Fingerling	28,911
2011	Florida largemouth bass	Fingerling	30,338
2011	Florida largemouth bass	Adult	167
2012	Florida largemouth bass	Fingerling	1,061, 077
2013	Florida largemouth bass	Fingerling	30,000
2013	Florida largemouth bass	Adult	192
2014	Florida largemouth bass	Phase II Fingerling's	62,072
2015	Florida largemouth bass	Phase II Fingerling's	60,082

Scheduled fish stockings

A request to stock 60,000 (20 fish per acre) phase II (2"-3") Florida largemouth bass fingerlings will be made until the conclusion of the stock assessment study in December 2017. Results of this study will be used to determine if future stockings are appropriate. Stocking requests are first prioritized by the District, then approved and prioritized by Inland administration.

Species profile

As per Freshwater Fishes of Louisiana by Dr. Neil H. Douglas, fish species listed below in Table 5 have been collected or are likely to occur in Turkey Creek Lake.

Table 5. Fish Species Documented in Turkey Creek Lake

AMIIDAE (Bowfin Family)

Bowfin, *Amia calva* (Linnaeus)

APHREDODERIDAE (Pirate Perch Family)

Pirate Perch, *Aphredoderus sayanus* (Gilliams)

ATHERINIDAE (Silverside Family)

Brook Silverside, *Labidesthes sicculus* (Cope)

CATOSTOMIDAE (Sucker Family)

Bigmouth Buffalo, *Ictiobus cyprinellus* (Valenciennes)
Black Buffalo, *Ictiobus niger* (Rafinesque)
Smallmouth Buffalo, *Ictiobus bubalus* (Rafinesque)
Spotted Sucker, *Minytrema melanops* (Rafinesque)

CENTRARCHIDAE (Sunfish Family)

Bluegill, *Lepomis macrochirus* (Rafinesque)
Black Crappie, *Pomoxis nigromaculatus* (Lesueur)
White Crappie, *Pomoxis annularis* (Rafinesque)
Largemouth Bass, *Micropterus salmoides* (Lacépède)
Spotted Bass, *Micropterus punctatus* (Rafinesque)
Dollar Sunfish, *Lepomis marginatus* (Holbrook)
Redear Sunfish, *Lepomis microlophus* (Günther)
Green Sunfish, *Lepomis cyanellus* (Rafinesque)
Longear Sunfish, *Lepomis megalotis* (Rafinesque)
Warmouth, *Lepomis gulosus* (Cuvier)

CLUPEIDAE (Herring Family)

Gizzard Shad, *Dorosoma cepedianum* (Lesueur)
Threadfin Shad, *Dorosoma petenense* (Günther)

CYPRINIDAE (Minnow Family)

Bighead carp, *Hypophthalmichthys nobilis* (Richardson)
Common Carp, *Cyprinus carpio* (Linnaeus)
Silver Carp, *Hypophthalmichthys molitrix* (Valenciennes)
Golden Shiner, *Notemigonus crysoleucas* (Mitchill)
Bullhead Minnow, *Pimephales vigilax* (Baird and Girard)
Blacktail Shiner, *Cyprinella venusta* (Girard)
Pallid Shiner, *Notropis amnis* (Hubbs and Greene)
Taillight Shiner, *Notropis maculates* (Hay)
Redfin Shiner, *Notropis umbratilis* (Girard)

FUNDULIDAE (Topminnow Family)

Golden Topminnow, *Fundulus chrysotus* (Günther)
Blackstripe Topminnow, *Fundulus notatus* (Rafinesque)
Blackspotted Topminnow, *Fundulus olivaceus* (Storer)
Southern Starhead Topminnow, *Fundulus nottii* (Agassiz)

ICTALURIDAE (Freshwater Catfish Family)

Yellow Bullhead, *Ameiurus natalis* (Lesueur)
Black Bullhead, *Ameiurus melas* (Rafinesque)
Brown Bullhead, *Ameiurus nebulosus* (Lesueur)
Channel Catfish, *Ictalurus punctatus* (Rafinesque)
Blue Catfish, *Ictalurus furcatus* (Rafinesque)
Flathead Catfish, *Pylodictis olivaris* (Rafinesque)
Tadpole Madtom, *Noturus gyrinus* (Mitchill)

LEPISOSTEIDAE (Gar Family)

Alligator Gar, *Atractosteus spatula* (Lacépède)
Spotted Gar, *Lepisosteus oculatus* (Winchell)
Longnose Gar, *Lepisosteus osseus* (Linnaeus)

POECILIIDAE (Livebearer Family)

Mosquitofish, *Gambusia affinis* (Baird and Girard)

MORONIDAE (Temperate Bass Family)

White Bass, *Morone chrysops* (Rafinesque)
Yellow Bass, *Morone mississippiensis* (Jordan and Eigenmann)

PERCIDAE (Darter and Perch Family)

Cypress Darter, *Etheostoma proeliare* (Hay)

SCIAENIDAE (Drum Family)

Freshwater Drum, *Aplodinotus grunniens* (Rafinesque)

Genetics

No genetic analyses have been performed on the largemouth bass population from Turkey Creek Lake. The sample size from past standardized sampling efforts has been insufficient for statistically valid results. A genetic analysis will be conducted as part of the largemouth bass population study scheduled for 2016 – 2018.

Threatened/endangered/exotic species

No threatened or endangered fish species are known to exist in Turkey Creek Lake. Silver carp (*Hypophthalmichthys molitrix*) and bighead carp (*Hypophthalmichthys nobilis*) have recently invaded the lake following backwater flooding from the Ouachita River.

CREEL

No creel surveys have been conducted on Turkey Creek Lake. A recreational angler survey has been scheduled for 2017. The survey will be conducted in association with the largemouth bass and crappie population assessments.

HYDROLOGICAL CHANGES

The connection of Turkey Creek and the surrounding swamp with the Boeuf and Ouachita Rivers was disrupted when the original dam and spillway were constructed in 1953. The

structure was modified in 1963 to impound water to the current elevation of 44 feet MSL. The pre-impoundment Turkey Creek lakebed was a natural backwater swamp with hydrologic connection to the Boeuf and Ouachita Rivers. The Boeuf River now enters as back flow at levels exceeding 44.0 ft. MSL.

WATER USE

Water Supply

Turkey Creek Lake is used as a local water source for irrigation of adjacent croplands.

Recreational:

1. Fishing - open to public
2. Skiing - no designated area, not recommended due to numerous underwater hazards
3. Scuba Diving - not suitable (murky water)
4. Swimming - no public swimming area
5. Boating – yes
6. Hunting - open to public with no special regulations - waterfowl hunting is popular in the upper reaches of the lake.